

# *Radiofrequency Radiation (RFR) Hazards Lesson Guide #12*



# *OBJECTIVES:* Upon completion of this topic you will be able to:

- Define Radiofrequency Radiation (RFR).
- Identify various types of equipment emitting RFR.
- Identify RFR Program elements.
- Describe purpose of RFR Program.
- Describe the Navy's policy of RFR

# Radiofrequency Radiation (RFR)



- When using radars, communications equipment, and microwave sources there is a potential for personnel exposure to radiofrequency radiation.
- The Navy has a strict radiofrequency radiation safety program to minimize radiation exposure.

# BACKGROUND



- **Radar Systems**
- **Communication Systems**
- **Police Radar Guns**
- **Cell Phones, Beepers,  
Electronic Modems**

**Radiation is energy  
transmitted through  
space in the form of  
electromagnetic waves  
("rays") or sub-atomic  
particles.**

# **Electromagnetic waves include:**

- **Radiofrequency radiation**
- **Microwaves**
- **Infrared, visible, and ultraviolet light**
- **X-rays and gamma rays**


# *Particle Radiation*

## *Includes:*



- Alpha particles
- Beta particles
- Neutrons

# *Radiofrequency/Microwave can cause:*



- Shocks and Burns
- Premature activation of electroexplosive devices in ordnance
- Arcs which could ignite nearby flammable material
- Interference with other electronic equipment



# *Navy's RFR Program consists of:*




- Surveys
- Investigation and reporting RFR exposure incidents
- Training personnel
- Marking RFR hazardous areas

# *Purpose of the RFR Program*



- To identify the hazards
- Post those hazards
- Prevent personnel from exposure
- Monitor potential exposures



*Navy policy is to limit  
personnel exposure to  
RFR to levels that are  
within the Permissible  
Exposure Limits (PELs)*

# *Other RFR Program elements:*



- Exposure reporting requirements
- RFR warning signs
- Medical Surveillance Program
- Training

# *RESPONSIBILITIES*



- COMNAVSEASYS COM - lead RFR safety
- Echelon Two - surveys and certifications
- BUMED - Lead for guidance on PELs

# *RESPONSIBILITIES*

- COMMANDING OFFICERS
  - ensure training
  - obtain safety certificates
  - conduct surveys
  - investigate, document, and report incidents



# Review and Summary